

WHAT IS CLAIMED IS:

1. A positive electrode active material for use as a positive electrode of a secondary battery having an electrically conductive electrolytic solution, the positive
5 electrode active material comprising:

a positive electrode active substance; and

a modified layer coated on a surface of said positive electrode active substance to enhance a wettability between the positive electrode using the positive electrode active material and the electrolytic solution of the secondary battery.

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2. The positive electrode active material as claimed in claim 1, wherein said modified layer has one or several atomic layers.

3. The positive electrode active material as claimed in claim 1, wherein said
15 modified layer is made of SnO_2 metal oxide.

4. The positive electrode active material as claimed in claim 1, wherein said modified layer is made of Al_2O_3 metal oxide.

20 5. The positive electrode active material as claimed in claim 1, wherein said modified layer is made of MgO metal oxide.

6. The positive electrode active material as claimed in claim 1, wherein said modified layer is made of one or more compounds selected from the group consisting
25 of SnO_2 , Al_2O_3 and MgO .

7. The positive electrode active material as claimed in claim 1, wherein said modified layer is made of one or more oxides selected from the group consisting of inorganic oxides of Ca, B, Ga, In, Tl, Si, Ge, Pb, P, As, Sb, and Bi, and mixtures thereof.

8. The positive electrode active material as claimed in Claim 1, wherein said modified layer is comprised of nanometered particles of diameter below 100 nm treated with a heat treatment at 600°C-900°C.

9. The positive electrode active material as claimed in claim 1, wherein the proportion of said modified layer is within 0.001-5.0 mmole.

10. The positive electrode active material as claimed in claim 1, wherein the proportion of said modified layer is within 0.001-1.0 mmole.

11. The positive electrode active material as claimed in claim 1, wherein said positive electrode active substance is a lithium transition metal oxide of chemical structure $\text{Li}_x\text{M}_y\text{O}_z$, in which M is one or more transition metals, and $0 \leq x \leq 1.15$, $0.8 \leq y \leq 2.2$ and $1.5 \leq z \leq 5$.

12. A secondary battery comprising a positive electrode, a negative electrode, and an isolation film and an electrolytic solution provided between said positive electrode and said negative electrode, wherein said positive electrode comprises a positive electrode active substance and a modified layer coated on a surface of said

positive electrode active substance to enhance a wettability between said positive electrode and said electrolytic solution.

13. The positive electrode active material as claimed in claim 12, wherein
5 said modified layer has one or several atomic layers.

14. The positive electrode active material as claimed in claim 12, wherein
said modified layer is made of SnO_2 metal oxide.

10 15. The positive electrode active material as claimed in claim 12, wherein
said modified layer is made of Al_2O_3 metal oxide.

16. The positive electrode active material as claimed in claim 12, wherein
said modified layer is made of MgO metal oxide.

15 17. The positive electrode active material as claimed in claim 12, wherein
said modified layer is made of one or more compounds selected from the group
consisting of SnO_2 , Al_2O_3 and MgO .

20 18. The positive electrode active material as claimed in claim 12, wherein
said modified layer is made of one or more oxides selected from the group consisting
of inorganic oxides of Ca, B, Ga, In, Tl, Si, Ge, Pb, P, As, Sb, and Bi, and mixtures
thereof.

25 19. The positive electrode active material as claimed in claim 12, wherein

said modified layer is comprised of nanometered particles of diameter below 100 nm treated with a heat treatment at 600°C-900°C.

20. The positive electrode active material as claimed in claim 12, wherein the
5 proportion of said modified layer is within 0.001-5.0 mmole.

21. The positive electrode active material as claimed in claim 12, wherein the proportion of said modified layer is within 0.001-1.0 mmole.